

In the claims:

This listing of claims will replace all prior versions of claims in the application:

C7
1. (currently amended) A method for communicating an Internet message between a source and a destination over the Internet, comprising:

- (a) selecting a node of a first type;
- (b) selecting a node of a second type;
- (c) communicating an Internet message from the source to the node of the first type using a first communication protocol;
- (d) communicating the Internet message from the node of the first type to the node of the second type using a second communication protocol; and
- (e) communicating the Internet message from the node of the second type to the destination using a third communication protocol.

2. (currently amended) A method for communicating an Internet message between a source and a destination over the Internet, comprising:

- (a) selecting a node of a first type;
- (b) communicating an Internet message from the source to the node of the first type using a first communication protocol;
- (c) communicating the Internet message from the node of the first type to a node of a second type using a second communication protocol; and
- (d) communicating the Internet message from the node of the second type to the destination using a third communication protocol.

3. (original) The method of claim 1 wherein the selecting step (a) comprises:

- (a1) for each of a plurality of candidate nodes of the first type, determining a measure of communications performance for a sub-link between the source and the candidate node of the first type; and
- (a2) selecting a node of the first type from among the plurality of candidate nodes of the first type to optimize the measure of communications performance.

4. (original) The method of claim 2 wherein the selecting step (a) comprises:

- (a1) for each of a plurality of candidate nodes of the first type, determining a measure of communications performance for a sub-link between the source and the candidate node of the first type; and
- (a2) selecting a node of the first type from among the plurality of candidate nodes of the first type to optimize the measure of communications performance.

5. (original) The method of claim 1 wherein the selecting step (b) comprises:

- (b1) for each of a plurality of candidate nodes of the second type, determining a measure of communications performance for a sub-link between the destination and the candidate node of the second type; and
- (b2) selecting a node of the second type from among the plurality of candidate nodes of the second type to optimize the measure of communications performance.

6. (original) The method of claim 1 wherein the selecting step (b) comprises:

(b1) for each of a plurality of candidate nodes of the second type, determining a measure of communications performance for a sub-link between the candidate node of the first type and the candidate node of the second type; and

(b2) selecting a node of the second type from among the plurality of candidate nodes of the second type to optimize the measure of communications performance.

7. (original) The method of claim 1 wherein:

step (a) comprises selecting the node of the first type so as to optimize a measure of communications performance for at least a sub-link in a link from the source to the destination via the node of the first type and the node of the second type; and

step (b) comprises selecting the node of the second type so as to optimize a measure of communications performance for at least a sub-link in a link from the source to the destination via the node of the first type and the node of the second type.

8. (original) The method of claim 1 wherein

the selecting step (a) comprises:

(a1) for each of a plurality of candidate nodes of the first types, determining a first measure of communications performance for a sub-link between the source and the candidate node of the first type; and

(a2) selecting a node of the first type from among the plurality of candidate nodes of the first type to optimize the first measure of communications performance; and

the selecting step (b) comprises:

CG (b1) for each of a plurality of candidate nodes of the second type, determining a second measure of communications performance for a sub-link between the node of the first type and each candidate node of the second type, and a third measure of performance for a sub-link between the candidate node of the second type and the destination; and

(b2) selecting a node of the second type from among the plurality of candidate nodes of the second type to optimize a combination of the second and third measures of communications performance.

✓ 9. (canceled)

✓ 10. (canceled)

✓ 11. (canceled)

✓ 12. (canceled)

13. (currently amended) The method of claim 1 further comprising the steps of:

(f) communicating a second Internet message from the destination to the node of the second type using a fourth communication protocol;

(g) communicating the second Internet message from the node of the second type to the node of the first type using a fifth communication protocol; and

(h) communicating the second Internet message from the node of the first type to the source using a sixth communication protocol.

C2

✓ 14. (canceled)

✓ 15. (canceled)

✓ 16. (canceled)

17. (original) The method of claim 1 wherein the communicating step (c) comprises redirecting the Internet message from the source to the node of the first type.

18. (original) The method of claim 2 wherein the communicating step (b) comprises redirecting the Internet message from the source to the node of the first type.

✓ 19. (canceled)

20. (currently amended) The method of claim 1 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

21. (currently amended) The method of claim 2 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

✓ 22. (canceled)

02
23. (currently amended) The method of claim 13 wherein the fourth communication protocol is a standard communication protocol, the fifth communication protocol is a high-performance communication protocol, and the sixth communication protocol is a standard communication protocol.

✓ 24. (canceled)

✓ 25. (canceled)

✓ 26. (canceled)

27. (original) The method of claim 20 wherein the Internet message is a World-Wide Web message.

28. (original) The method of claim 21 wherein the Internet message is a World-Wide Web message.

✓ 29. (canceled)

30. (original) The method of claim 23 wherein the Internet message is a World-Wide Web message.

✓ 31. (canceled)

✓32. (canceled)

✓33. (canceled)

✓34. (canceled)

✓35. (canceled)

C2

36. (currently amended) A system for communicating an Internet message from a source to a destination over the Internet, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type;

a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source; and

a second selector to identify a node of a second type from the one or more nodes of a second type and communicate the selection to a selected node of a first type;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first communication protocol;

a transmitter to communicate the Internet message to a selected node of the second type using a second communication protocol; and

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol.

37. (currently amended) A system for communicating an Internet message from a source to a destination over the Internet, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type; and

a selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first communication protocol; and

a transmitter to communicate the Internet message to a node of the second type using a second communication protocol; and

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol.

38. (original) The system of claim 36 wherein:

the first selector identifies a node of the first type that optimizes a first measure of communications performance for a sub-link between the source and each of a plurality of candidate nodes of the first type.

39. (previously presented) The system of claim 37 wherein:

the selector identifies a node of the first type that optimizes a first measure of
communications performance for a sub-link between the source and each of a
plurality of candidate nodes of the first type.

40. (original) The system of claim 36 wherein:

the second selector identifies a node of the second type that optimizes a measure of
communications performance for a sub-link between a selected node of the
second type and the destination.

41. (original) The system of claim 36 wherein:

the first selector identifies a node of the first type that optimizes a measure of
communications performance for at least a sub-link in a link from the source
to the destination via the node of the first type and the node of the second type;
and

the second selector identifies a node of the second type that optimizes a measure of
communications performance for at least a sub-link in a link from the source
to the destination via the node of the first type and the node of the second type.

42. (currently amended) A system for communicating an Internet message from a source to a destination over the Internet, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type; and

02
a selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source, and to identify a node of a second type from the one or more nodes of a second type and provide the selection to a selected node of a first type;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first communication protocol; and

a transmitter to communicate the Internet message to a node of the second type using a second communication protocol; and

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol.

43. (original) The system of claim 42 wherein the selector identifies a node of the first type and a node of the second type that optimize a measure of communications performance for a sub-link between the source and the node of the first type, a sub-link between the node of the first type and the node of the second type, and a sub-link between the node of the second type and the destination.

C2
44. (original) The system of claim 42 wherein the selector identifies a node of the first type and a node of the second type that optimize a measure of communications performance for at least a sub-link in a link between the source and the destination.

45. (currently amended) The system of claim 36 wherein:

each node of the second type further comprises a receiver to receive a second Internet message from the destination using a fourth communication protocol, and a transmitter to communicate the second Internet message to a selected node of the first type using a fifth communication protocol; and
each node of the first type further comprises a receiver to receive the second Internet message from a selected node of the second type using the fifth communication protocol, and a transmitter to communicate the second Internet message to the source using a sixth communication protocol.

46. (currently amended) The system of claim 42 wherein:

each node of the second type further comprises a receiver to receive a second Internet message from the destination using a fourth communication protocol, and a transmitter to communicate the second Internet message to a selected node of the first type using a fifth communication protocol; and
each node of the first type further comprises a receiver to receive the second Internet message from a selected node of the second type using the fifth communication protocol, and a transmitter to communicate the second Internet message to the source using a sixth communication protocol.

47. (currently amended) A system for communicating an Internet message from a source to a destination over the Internet, comprising:

02 a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type; and

11 a selector to identify a node of a second type from the one or more nodes of a second type and provide the selection to a node of the first type;

wherein each node of the first type comprises:

an interceptor to intercept the Internet message from the source using a first communication protocol; and

a transmitter to communicate the Internet message to a selected node of the second type using a second communication protocol; and

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol.

48. (currently amended) A system for communicating an Internet message from a source to a destination over the Internet, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type; and

CF a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to a redirector;

a second selector to identify a node of a second type from the one or more nodes of a second type and provide the selection to a selected node of a first type;

the redirector to redirect the Internet message from the source to the selected node of a first type;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the redirector using a first communication protocol; and

a transmitter to communicate the Internet message to a selected node of the second type using a second communication protocol; and

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol.

✓ 49. (canceled)

50. (currently amended) The system of claim 36 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

51. (currently amended) The system of claim 37 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

52. (currently amended) The system of claim 42 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

53. (currently amended) The system of claim 45 wherein the fourth communication protocol is a standard communication protocol, the fifth communication protocol is a high-performance communication protocol, and the sixth communication protocol is a standard communication protocol.

54. (currently amended) The system of claim 46 wherein the fourth communication protocol is a standard communication protocol, the fifth communication protocol is a high-performance communication protocol, and the sixth communication protocol is a standard communication protocol.

55. (currently amended) The system of claim 45 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

56. (currently amended) The system of claim 46 wherein the first communication protocol is a standard communication protocol, the second communication protocol is a high-performance communication protocol, and the third communication protocol is a standard communication protocol.

57. (currently amended) The system of claim ~~36~~ 50 wherein the Internet message is a World-Wide Web message.

58. (currently amended) The system of claim ~~37~~ 51 wherein the Internet message is a World-Wide Web message.

59. (currently amended) The system of claim ~~42~~ 52 wherein the Internet message is a World-Wide Web message.

✓ 60. (canceled)

✓ 61. (canceled)

62. (currently amended) A The system of claim 45 wherein for communicating an Internet message from a source to a destination over the Internet, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type;

a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source;

a second selector to identify a node of a second type from the one or more nodes of a second type and communicate the selection to a selected node of a first type;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first protocol;

a transmitter to communicate the Internet message to a selected node of the second type using a second protocol;

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third protocol;

each node of the second type further comprises a receiver to receive a second Internet message from the destination using a fourth protocol, and a transmitter to communicate the second Internet message to a selected node of the first type using a fifth protocol;

each node of the first type further comprises a receiver to receive the second Internet message from a selected node of the second type using the fifth protocol, and a

transmitter to communicate the second Internet message to the source using a sixth protocol;

the first, third, fourth, and sixth protocol each include use of HTTP and TCP protocol standards;

the second and fifth protocols each make use of a persistent transport connection between a node of the first type and a node of the second type;

each receiver includes one or more network adaptors and supporting protocol stack software;

each selected node of the first type and each selected node of the second type is a computer that includes a receiver and implementing software that includes web proxy software;

the first selector includes DNS server software that communicates the selection to the source using a DNS protocol; and

the first selector includes software to select a node of the first type based at least in part on an estimate of network distance between the source and the selected node of the first type.

✓ 63. (canceled)

✓ 64. (canceled)

✓ 65. (canceled)

✓ 66. (canceled)

67. (new) A system for communicating an Internet message between a source and a destination, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type;

a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source;

a second selector to identify a node of a second type from the one or more nodes of a second type and communicate the selection to a selected node of a first type;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first communication protocol;

a transmitter to communicate the Internet message to a selected node of the second type using a second communication protocol;

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol;

each node of the second type further comprises a receiver to receive a second Internet message from the destination using a fourth communication protocol, and a transmitter to communicate the second Internet message to a selected node of the first type using a fifth communication protocol;

each node of the first type further comprises a receiver to receive the second Internet message from a selected node of the second type using the fifth

communication protocol, and a transmitter to communicate the second Internet message to the source using a sixth communication protocol;

the first, third, fourth, and sixth communication protocols each include use of HTTP and TCP protocol standards;

at least one of the second and fifth communication protocol is a high-performance communication protocol;

each receiver includes one or more network adaptors and supporting protocol stack software;

each selected node of the first type and each selected node of the second type is a computer that includes a receiver and implementing software that includes proxy software;

the first selector includes DNS server software that communicates the selection to the source using a DNS protocol; and

the first selector includes software to select a node of the first type based at least in part on an estimate of network distance between the source and the selected node of the first type.

68. (new) A system for communicating an Internet message between a source and a destination, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type;

a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first
communication protocol;

a transmitter to communicate the Internet message to a node of the second
type using a second communication protocol;

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first
type; and

a transmitter to communicate the Internet message to the destination using a
third communication protocol;

each node of the second type further comprises a receiver to receive a second Internet
message from the destination using a fourth communication protocol, and a
transmitter to communicate the second Internet message to a selected node of
the first type using a fifth communication protocol;

each node of the first type further comprises a receiver to receive the second Internet
message from a node of the second type using the fifth communication
protocol, and a transmitter to communicate the second Internet message to the
source using a sixth communication protocol; and

the first selector includes DNS server software that communicates the selection to the
source using a DNS protocol.

69. (new) A system for communicating an Internet message between a source and a
destination, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes
of a second type;

a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first communication protocol;

a transmitter to communicate the Internet message to a node of the second type using a second communication protocol;

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol;

each node of the second type further comprises a receiver to receive a second Internet message from the destination using a fourth communication protocol, and a transmitter to communicate the second Internet message to a selected node of the first type using a fifth communication protocol;

each node of the first type further comprises a receiver to receive the second Internet message from a node of the second type using the fifth communication protocol, and a transmitter to communicate the second Internet message to the source using a sixth communication protocol; and

the first, third, fourth, and sixth communication protocols each include use of HTTP and TCP protocol standards.

70. (new) A system for communicating an Internet message between a source and a destination, comprising:

a plurality of nodes including one or more nodes of a first type and one or more nodes of a second type;

a first selector to identify a node of a first type from the one or more nodes of a first type and communicate the selection to the source;

wherein each node of a first type comprises:

a receiver to receive the Internet message from the source using a first communication protocol;

a transmitter to communicate the Internet message to a node of the second type using a second communication protocol;

each node of the second type comprises:

a receiver to receive the Internet message from a selected node of the first type; and

a transmitter to communicate the Internet message to the destination using a third communication protocol;

each node of the second type further comprises a receiver to receive a second Internet message from the destination using a fourth communication protocol, and a transmitter to communicate the second Internet message to a selected node of the first type using a fifth communication protocol;

each node of the first type further comprises a receiver to receive the second Internet message from a node of the second type using the fifth communication protocol, and a transmitter to communicate the second Internet message to the source using a sixth communication protocol;

the first, third, fourth, and sixth communication protocols are standardized web communication protocols;

at least one of the second and fifth communication protocols is a high-performance communication protocol;

each receiver includes one or more network adaptors and supporting protocol stack software; and

the first selector includes software to select a node of the first type based at least in part on an estimate of network distance between the source and the selected node of the first type.

C2

71. (new) A method for communicating between a source and a destination in a system, wherein the system comprises:

- a client, the client associated with a selector;
- a server;
- a plurality of specialized nodes, the specialized nodes including software to understand standardized web communication protocols, the plurality of specialized nodes including at least one first specialized node and at least one second specialized node;
- a plurality of nodes, wherein the plurality of nodes does not include specialized nodes;
- a first communication protocol for communicating messages between at least some of the plurality of nodes, between at least one of the plurality of nodes and at least one of the plurality of specialized nodes, and between at least one of the plurality of specialized nodes and the client, wherein the first communication protocol is a widely used standardized web communication protocol;

an internode communication protocol for communicating messages between the at least one first specialized node and the at least one second specialized node, wherein the internode communication protocol is a high-performance communication protocol;

a third communication protocol for communicating messages between at least some of the plurality of nodes, between at least one of the plurality of nodes and at least one of the plurality of specialized nodes, and between at least one of the plurality of specialized nodes and the server, wherein the third communication protocol is a widely used standardized web communication protocol;

wherein the method comprises:

selecting a first specialized node using the selector;

communicating a message between the client and the selected first specialized node using the first communication protocol;

communicating the message between the selected first specialized node and the at least one second specialized node using the internode communication protocol; and

communicating the message between the at least one second specialized node and the server using the third communication protocol.

07

72. (new) The method and system of claim 71, wherein the system further comprises:
a second selector associated with the at least one first specialized node;
and wherein the method further comprises:
selecting at least one of the plurality of second specialized nodes using the second selector.

CZ 73. (new) The method and system of claim 71, wherein the selector utilizes DNS.

74. (new) The method and system of claim 71, wherein the selector utilizes HTTP redirection.

75. (new) A method comprising:
deploying a plurality of first specialized nodes, each of the plurality of first specialized nodes including software to receive and transmit messages conforming to a first communication protocol, the first communication protocol being a standardized web communication protocol, and software to receive and transmit messages conforming to a high-performance communication protocol;
deploying a plurality of second specialized nodes, each of the plurality of second specialized nodes including software to receive and transmit messages conforming to the high-performance communication protocol, and software to receive and transmit messages conforming to a third communication protocol, the third protocol being a standardized web communication protocol;
operating a selector for selecting one of the plurality of first specialized nodes;

providing for communicating messages between a source and the selected first specialized node using the first communication protocol;
providing for communicating messages between the selected first specialized node and one of the second specialized nodes using the high-performance communication second protocol; and
providing for communicating messages between one of the selected second specialized nodes and a destination using the third communication protocol.

76. (new) A method for communicating between a source and a destination in a system, the system comprising:

a plurality of first specialized nodes, each of the plurality of first specialized nodes including software to receive and transmit messages conforming to a first communication protocol, the first communication protocol being a standardized web communication protocol, and software to receive and transmit messages conforming to a high-performance communication protocol; and
a plurality of second specialized nodes, each of the plurality of second specialized nodes including software to receive and transmit messages conforming to the high-performance communication protocol, and software to receive and transmit messages conforming to a third communication protocol, the third protocol being a standardized web communication protocol;

wherein the method comprises:

selecting one of the plurality of first specialized nodes;

communicating a message between the source and the selected first specialized node
using the first communication protocol;
selecting one of the plurality of second specialized nodes;
communicating the message between the selected first specialized node and the
selected second specialized node using the high-performance communication
protocol; and
communicating the message between the selected second specialized node and the
destination using the third communication protocol.

77. (new) The method and system of claim 76, wherein

the step of selecting one of the plurality of first specialized nodes includes selecting
one of the plurality of first specialized nodes to optimize a measure of
communications performance between the source and the selected first
specialized node.

78. (new) The method and system of claim 76, wherein

the step of selecting one of the plurality of second specialized nodes includes
selecting one of the plurality of second specialized nodes to optimize a
measure of communication performance between the selected first specialized
node and the selected second specialized node.